THE LAKEHEAD AMATEUR RADIO CLUB
JOURNAL

HI-Q

September 2006
Volume 72 Issue 7

VE3FW—LARC call sign honours the memory of the Founding President P.J. "Pat" O'Shea

Inside this issue:

- **Next Meeting Thursday September 14, 2006 at the McIntyre Building, Confederation College Room 191 at 7:30 pm**
- **Election of Officers at September Meeting**
- **2006 - 2007 Membership DUES are NOW DUE**
- **Check into the LARC 2 Meter ARES Net on YQT every Tuesday evening at 7:00 pm local time**

September 2006 General Meeting

Special Guest Speaker

Ted Bronson, President
Thunder Bay
Royal Astronomical Society of Canada
will give a presentation of sun observing through a telescope. Members will be able to view solar flares, corona and more!

Presentation starts at 7:30 pm SHARP!

Take advantage of this one!

Thursday September 14th

McIntyre Building, Confederation College

Room 191

7:30 pm

LARC OPEN ACCESS REPEATERS

VE3YQT	**Mount Baldy**	**147.060 (-600) Phone Patch**
VE3TBR	**St. Joseph's**	**146.820 (-600)** 442.075 (+5 MHz)
VE3BGA	**Hillcrest H.S.**	**145.450 (-600)** **(IRLP Node VA3LU 123.0 Hz)** 442.825 (+5 MHz) (100.0 Hz)
VE3UPP	**Upsala**	**145.470 (-600)**

LARC June 8, 2006 Minutes

Not available

Joe VE3TBX

Lakehead Amateur Radio Club
Treasurers Report

Opening Balance - June 1, 2006		**$ 4,817.22**
Income		
	Ball Caps	$ 15.00
	50/50 Draw	$ 6.51
	Sale of Old Police Radios	$ 185.00
	Magnetic	$ 100.00
	Interest	$ 0.11
		$ -
	Total Income	**$ 306.62**
Expenses		
	Thunder Bay Telephone	$ 138.05
	Bank Service	$ 1.00
	Insurance	$ 550.80
	Total Expenses	**$ 689.85**
Closing Balance - September 7th, 2006		**$ 4,433.99**

Joe Coghlan - VE3TBX
Treasurer

APRS and ISS

From the September 2006 issue of QST - Reprinted with permission
-submitted by Robert, VE3ROM

APRS and ISS

There is nothing like a heaping spoonful of alphabet soup to start a column. APRS is the trademark designation of the Automatic Position Reporting System, a popular packet radio application developed by Bob Bruninga, WB4APR. ISS is an acronym for the International Space Station. So what does one have to do with the other?

When the ISS crews aren't using their Amateur Radio station for voice contacts, they often switch it to the packet digipeater mode. In this configuration the station acts as an orbiting repeater, relaying data signals over hundreds of miles. Hold onto this concept for a moment.

APRS, for its part, is a packet radio network that can be used for many purposes. The most common application is tracking the positions of suitably equipped ham stations. At regular intervals an APRS station transmits a burst of data that contains its latitude and longitude coordinates, among other information. Mobile APRS stations are equipped with Global Positioning System (GPS) receivers that update the coordinates as the stations move.

Other APRS stations relay these informative signals over wide areas. Anyone who receives an APRS signal can feed the audio to a terminal node controller (a *TNC*— think of it as a radio modem). The TNC decodes the data and passes it to a computer. The APRS software running on the computer then displays the position of the station as an icon on a detailed map. If the station moves and a new report is decoded, the icon shifts position as well.

By now you've probably figured out where all this is headed. If terrestrial digipeaters can relay APRS signals, couldn't the ISS digipeater do the same? You bet!

APRS via ISS

If you're looking for a good excuse to dust off your old packet TNC, or a reason to try something new with your existing APRS setup, ISS digipeating offers an intriguing diversion. The ISS digipeater has a strong, easy-to-hear signal, so you won't need directional antennas if your RF output is reasonable (20 W+). This is 1200-baud packet radio on 2 meters, so just about any 2-meter FM transceiver will do the job.

A number of APRS-active hams are using the ISS in this fashion and the results are fascinating. I've been dabbling at ISS APRS myself with 20W output and an omni antenna in the attic.

During this ISS pass, I saw a position report from W4GNS. He was driving a tractor-trailer in Virginia! When I clicked on his Icon, a little window opened to indicate his course and speed.

The passes are only about 10 minutes in length, but during each pass I always see a number of icons popping onto the map.

If you aren't presently on the air with APRS, you'll need to locate APRS software and install it on your computer. Do a Web search and you'll find a multitude of applications. My personal favorite is *UI-View* for *Windows* by the late Roger Barker, G4IDE. You'll find it at **www.ui-view.org.**

When you set up the software of your choice, one thing you'll need to do is specify the *UNPROTO* path. This string of text lists the stations (or types of stations) that will relay your signal. For the ISS, make sure that **RSOISS-3** is in the path string.

You don't need to have a GPS receiver attached to your APRS setup unless you are a mobile station. If you're stationary, determine the latitude/longitude coordinates of your station and plug those into the APRS software.

When all is ready, go to the AMSAT Web site and grab some ISS pass predictions at **www.amsat.org/amsat-new/tools/predict/.**

Set up your FM transceiver to receive on *145.800* M1-lz and transmit on *145.990* MHz. As the packet bursts from the space station become strong enough, you should start seeing icons on your computer-generated APRS map. You can transmit your own bursts manually (that's what I do), or automatically by setting your APRS beacon rate to a more aggressive value (once per minute or less).

Entertaining and Educational

There is something strange about hearing these signals from outer space and seeing them manifest as position icons. Each icon represents a station and you can usually click on the symbol and discover additional tidbits of information, including local weather data on occasion. I've even had hams send me short APRS messages through the ISS digipeater. In *UI-View* there is a brief alarm and a window opens to reveal "Good morning from Ontario!" or something to that effect.

APRS through the International Space Station has definite classroom possibilities. If the goal were simply to monitor the ISS, the teacher wouldn't even need to be a ham. He or she could set up a 2-meter receiver and display APRS signals for the class. Students could become involved in making ISS pass predictions, plotting signal coverage and more. If a hardware packet TNC isn't available, the free *AGW Packet Engine* software TNC can be pressed into service using the computer's sound card as the modem. *AGW* is available for download at **www.elcom.gr/sv2agw/inst.htm.**

Article by Steve Ford. WB8IMY, QST Editor, sford@arrl.org **. Reprinted by permission from QST issue September 2006, p. 82.**

APRS®: An Introduction

Robert, VA3ROM (va3rom@tbaytel.net)

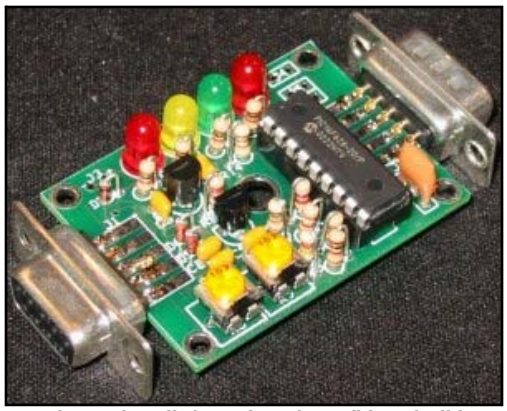
APRS® is the Automatic Position Reporting System, also called the Automatic Packet Reporting System. It is a tactical communication and GIS (graphical information system) that operates in real-time. Using digital 1200-baud (for VHF) or 300-baud (for HF) AX.25 packet data protocol, information between many stations, covering either a local or large area can be exchanged. It is very different from conventional Packet radio, and is often confused with conventional Packet radio by old time Packratts. Bob Bruninga, WB4APR, an instructor at the U.S. Naval Academy created APRS in the early 1990's. Bob wanted to combine the then new GPS (Global Positioning Satellite System) with a radio and beacon to track a moving object. The U.S. navy goat mascot is rumoured to have been the first thing ever tracked during an annual Army/Navy football game! Bob allows APRS to be freely used by amateur radio operators for non-commercial use.

Major differences from conventional Packet radio:

1. Maps and other data displays are used to display tactical information (a GIS or Graphical Information System).
2. APRS uses a one-to-many paradigm to update everyone on the system at the same time and in real-time.
3. No prior knowledge of the APRS network is required since APRS uses generic digipeating.
4. APRS information can be fed into the Internet (World Wide Web), linking the world.
4. GPS technology is easily integrated into APRS information to track moving/flying/floating objects.

Conventional Packet radio's usefulness was in passing bulk email messages from point to point. It could not be applied to real-time events where the information must be acted upon immediately, and must get to everyone at once.

What Can APRS Do?



TinyTrak radio/GPS interface, (kit or built).

APRS has obvious uses in public service events and emergency communications. It was used by the Atlantic 1996 Olympics® to handle the tracking, recording of athletic events (it kept helicopter cameras and ground cameras in sync) which was broadcast to the networks. While APRS can span the world via the Internet, it is optimized for short distance, real-time emergency operations. All stations can easily connect because it avoids the complexity and limitations of networks and nodes and paths. If one station or a group disconnects from APRS, it will not impact the rest of the system except for those stations that disconnected. Any number of stations can exchange data just like users on a regular voice net. But, unlike a voice net, any APRS station that has important information can send it out immediately, and all other station will receive it in real-time. You don't have to wait around for an opening in the traffic flow to get your message out.

Besides passing routine and emergency traffic, messages, bulletins, etc., APRS can also track people, things, or objects (things that don't normally exist) and display their whereabouts and status on maps. Where is the command HQ? Where are the emergency vehicles, or first aid stations located? What is the weather at this or that location? What is the forecast? Where is the fire hazard area? Where are the fire crews? What areas are flooded? Are there any weather alerts, warnings, or watches? Where is the eye of the hurricane, and it's speed and course now? APRS can answer all those questions quickly by a person glancing at a computer display. No need for excessive radio chatter and confusion in terms, phraseology or language barriers A picture is worth 1,000 words, and so is APRS.

Frequencies and Methods of Transmission

APRS normally uses 144.390MHz for passing information in North America, and other countries use different frequencies or various reasons But, any 2-way radio system and frequencies can be used including ham, CB, marine, GMRS/FRS, or even cellular phones. The standard frequency of 144.390MHz was first used in Canada, while the U.S. used a different frequency. For various reasons, the Canadian frequency was adopted as the standard for both countries. In heavy traffic areas, stations are now using APRS duplex repeaters sending information on one frequency and receiving it on another, perhaps not in the same band. This effectively doubles the handling capacity of the overloaded digital system.

Using various web sites such as www.aprs.va3tk.com live APRS information can be viewed and tracked without using a radio or ARPS software. In 2006, there are many APRS servers in operation around the world. You can find past transmissions of any APRS station and view a history of the tracks of an APRS mobile station, etc.

(Continued on next page)

APRS®: An Introduction - Robert, VA3ROM (*continued*)

Other uses of APRS include sending out emails, DX information, connecting home weather stations to the APRS weather net, and forwarded to the NWS (U.S. National Weather Service via the CWOP (Citizen Weather Observer's Program)), direction finding on radio interference or good old foxhunting. Maps of any scale can be created for specific needs and situations very easily and integrated in to APRS software. The ISS (International Space Station) uses a Kenwood D700 transceiver for the astronauts to use for voice contacts or as APRS digipeating (see separate article). There are several other flying satellite digipeaters (PACSATS), as well as terrestrial ones. Helium and hot-air balloons have lifted transceivers and TNCs (terminal node controllers) aloft as extended range digipeaters. The sky is literally not the limit with APRS applications. If you can think it, APRS can do it!

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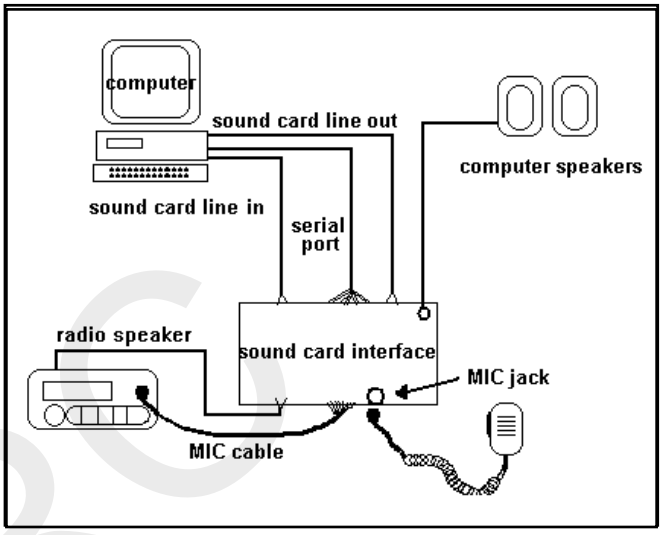
Getting Started

There's not much to setting up an APRS station. Most of us will use the AGW sound card packet engine as a substitute for hardware TNC. See http://www.patmedia.net/ralphmilnes/soundcardpacket/ for more information. There are many great APRS programs out there, but the most popular is UI-View32. See http://www.ui-view.org/ for more information. Registration is free, but a donation to your local or national Cancer Society is suggested. This is a phenomenal program, and I've used a lot of good and bad software over the years. The author, Roger Barker G4IDE passed away from cancer in 2004. He was a brilliant programmer and his passing is a true loss for all of us. UI-View took Europe by storm and came over to North America a couple of years before Roger passed away in 2004. There are many program add-ins (plug-ins) that are written for UI-View such as a FCC/RAC callsign database lookup, NWS weather integration, weather station interface, etc.



The diagram gives you the general idea of how things are hooked together. If you check out the Soundcard Packet and UI-View websites you'll see that it's not that hard to get started in the digital world of APRS and other digital modes. This basic setup is also used on HF for SSTV, PSK31, RTTY, and almost every kind of digital mode except PACTOR, and a few others that require specific hardware modems. Just remember that when you are using your soundcard and radio in this setting; don't put on some MPEG audio files for background music! Guess what else will get transmitted on 144.390MHz or other frequency!

If you just want to listen and display APRS signals, just install the AGW packet engine and UI-View. You can take the audio from your 2-metre radio with an audio cable, and feed it into your line or microphone (most laptops,) input and skip the interface, as it's only required for transmitting digital signals. You can also listen on HF with your transceiver or shortwave receiver and load up some programs like DIGIPAN, SEATTY, MMTY, MMSSTV, CWGET, etc., and have some fun decoding those digital signals. Don't forget to set your Windows audio levels properly. Most of the digital programs explain that in their documentation or help files.

I'm using an old Pentium II, 333MHz computer with 384MB of RAM that has 2 real serial ports that most amateur radio programs use. This old machine amazingly runs Windows XP with no problems and all my 6 concurrent digital and other programs.

(Continued on next page)

APRS®: An Introduction - Robert, VA3ROM

(continued)

Yes, those old computers don't need to be thrown away and clogging up our landfill sites. You can get some great machines for cheap prices and put them to use in the amateur radio service.

The New WIDEn-N Paradigm

In 2004, Bob Bruninga developed a new paradigm for APRS called WIDEn-N to help reduce radio gridlock in high radio traffic area. The old RELAY, WIDE and TRACE methods of digipeating are not to be used anymore. These methods just kept repeating redundant data packets thus jamming the frequency. WIDEn-N adds a counter to the number of digipeats or hops that an APRS signal would be allowed (the second N). The value of N is decrement each time until it reaches zero. Digipeater stations should now use WIDE2-2 (or WIDE3-3 in large, coverage areas) and mobiles should now use WIDE1-1, WIDE2-1 (or WIDE2-2, if necessary) in their APRS UNPROTO path. APRS stations should no longer respond to RELAY, WIDE or TRACE transmissions. Well, that's the theory anyway. New APRS networks such as the one that is starting in Thunder Bay can just go with the new paradigm with no big deal. Just modified our APRS program configuration file (UI-View32) and we were good to go (Fred, VE3FAL, and myself). The older APRS networks have a serious problem of getting tens if not hundreds of users to change.

Note: I have PDF files of the 128-page APRS Protocol Reference manual (APRS101) as well as the 88-page CWOP (Citizen Weather Observer's Program). Drop me an email and I'll forward one or both to you. I am also porting AIS ship data over to the APRS network. My APRS weather station should be up and running once I get the UI-View Weather plug-in configured later in September (also waiting for a replacement anemometer to arrive.)

Addendum to QST Article APRS and ISS - page 4

The article omitted some important facts that perhaps were overlooked since the author assumed a certain level of knowledge. We all know what ASSUME means in the end!

Please not that do not transmit an RS0ISS-3 beacon on 144.390MHz (national APRS frequency). You only put RS0ISS-3 into the UNPROTO path (and just RS0ISS-3) when you want to work the ISS on 145.800/145.990MHz split. It is recommended that you manually send your beacon when you can actually hear the ISS on the downlink. Don't forget to change the UNPROTO path and remove RS0ISS-3 from the path when you revert to the national APRS frequency.

Robert, VE3ROM

From the Desk of Dave, VE3AVS

Some useful URL's

www.batteryspace.com incredible variety of miscellaneous replacement batteries (even for dog collars!)

www.usrepeaters.com complete online listing state-by-sate of u.s. repeaters all bands.

Too many radios cluttering up the shack.
Please post these For Sale next HI-Q and thanks. .

1. ICOM Model IC-228H mobile 2M FM with 20 memory channels output power 45/5 watts complete with full service manual.

2. YAESU Model FT-2500M mobile 2M FM with 31 memory channels output power 5/25/50 watts with operating manual.

Each selling @ $100 or both for $175. Dave VE3AVS @ 344-8949 or ve3avs@rac.ca.

Thanks and 73. Dave

From a recent issue of Maclean's magazine..

"The British Army has issued new orders concerning the use of bagpipes. From now on, pipers are restricted to practicing for no more than 15 minutes a day indoors and 24 minutes outdoors. Army officials fear lawsuits from those forced to listen to the pipes, noting that they produce 111 decibels, which is louder than pneumatic drills. In addition, pipers will be required to wear earplugs while playing. No similar relief in store for listeners, though."

P.S. It's only in the recent past that pipes in the Canadian Forces were recognized as musical instruments and pipers paid a musician's allowance!

The 2006 Flight of the Bumble Bees

Bill Unger, VE3XT

One of my favourite operating events during the year is either the Freeze Your Buns Off in January or the Flight of the Bumble Bees in July. They are both sponsored by the Adventure Radio Society. This is an organization that encourages Hams to take their rigs out into the field and operate. It's in effect a mini field day. You can get more info on the ARS at http://www.arsqrp.com/

If you ever want to try operation in the field check out their web site as they have all kinds of good ideas to make it easier.

The premise for FOBB is that stations (Bees) leave the hive (home) and either walk, bike or canoe using their own power to some location to set up their base for the 4 hour contest. Each operator that operates from the field is given a sequential number and home stations are considered hives. Who says Hams don't have vivid imaginations!

This is a QRP, CW operation and it's a good way to improve you operating skills. The good part is that the exchange is set so you know what is going to be sent and the speeds are not outrageous.

This year I operated from the Chippewa Park lookout. This is a high piece of land just past the Zoo at Chippewa. Once the car is parked and I have my pack loaded I start of on the hike. It took me about 25 minutes to get to my location. It was a pit of an uphill go and that's why it took a little longer. Once there I unloaded my station and started setup. This year I used a non resonant dipole strung up about 25 feet using a combination of an extendable fishing pool and a handy spruce tree.

My station consisted of my Elecraft K1 running 3 Watts. Since it has a built in automatic antenna tuner, band hopping was no big deal. The power for the rig consisted of 8, AA NiMH batteries that will give me 6+ hours of operation. Once the contest started I was in the thick of it. Conditions were not bad on 20 with lots of QSB however. 40M never really did open up and I only made 5 contacts on that band. On 20M I managed to snag 20 QSO's and out of the 25 QSO's total 19 were other bees. It never fails to amaze me that you can hike out to the bush and set up a station and then actually work other stations that are doing the same.

Before the contest 268 Hams signed up to be Bee's and 141 actually sent in logs. I came in at number 47 which was second place for Canada.

The one thing that did scare me was there was a nasty and humongous black cloud drifting in from the west. I did manage to get continual weather updates from Dave, **VE3AVS** so I had some idea what was happening. And mercifully nothing did.

The one bad thing that did happen was after sitting on my butt on a rock for 4 hours I had a severe case of numb bum. Hopefully there are no long term effects……..

I have attached a shot of my operating setup and the op at work.

What's in the Water?

I had some time to kill a few days ago and was looking at the contest results in TCA. I know you all are members of RAC so you also get this magazine, right?

Anyway as I looked through the results I started to notice more and more Thunder Bay Hams or former locals doing very well in contests. Must be the good Lake Superior water!

The big winners were Jim Roberts, **VE7ZO** (formerly **VE3EDC**, I think) who along with John Sluymer, **VE3EJ** won the World Radiosport Team Championship. This is a by invitation only contest where 46 teams from various countries are brought to a central location and given similar stations and operate in a contest to see who is the best. This year the contest was held in Brazil. Check out the story in TCA. Jim is the son of one of our former senator Bill Roberts, **VE3ARN** (SK). He was first licensed here in Thunder Bay and was an avid contester from the radio station at Lakehead University, **VE3LUE**. For more info on the WRTC check out http://www.wrtc2006.com/site/home.asp

Another contest winner is former Thunder Bay ham Dennis Gasparotto, **VE3JAQ** who also graduated from LU and is now working in Southern Ontario. Dennis came in first place for all band low power in the CQWW SSB contest. He also was the 11th in Canada in the CQWW RTTY Contest.

And last but not least local ham, Tom **VE3CX** gained 1st place on 80M with a score of 22,500 points in the RAC Canada Winter contest using high power. Rumor has it Tom is setting up a super contest station out in the Lappe area.

And finally if my sources are correct the Editor of The Sports Page in TCA, Bob Nash, **VE3KZ** is also a Thunder Bay Boy who regularly does well in various contests.

Did I miss any local contesters that you know of, let me know.

Bill VE3XT

Here is a note from Rick Johnson **KB0BDN** in Grand Marais and he was wondering if anyone up here is interested in this event or wants to play radio at a check point.

Get in touch with him via email or on the air 146.895- 100hz tone in Grand Marais. Pass it along via mail out and on the Tuesday night net.

Another point of interest to the locals is that the Boundary Waters Amateur Radio Club is having their annual summer BBQ and get together on Sept. 17 at 1:00 pm Grand Marais time at the Maple Hill tower site.

Bring something to cook on the BBQ and something to share. Please note that there is border restrictions on meat at the border and you should purchase meat items at the local stores to avoid problems. This is an informal gathering and talk in is on 146.895- 100hz tone

Randy, **VA3OJ**

From: "Rick Johnson" <RickJo@blackspruce.com>

To: "Gottfred, Randy" <va3oj@tbaytel.net>

Sent: Friday, August 25, 2006 10:20 PM

Subject: Superior Trail Races...

> http://www.superiortrailrace.com/

The high level recap is that the 100 mile starts on Friday, September 8th at 0800. The other two begin Saturday at 0800.

We will need operators at - hopefully - all of the checkpoints / aid stations. Things should start out fairly light on Friday, such that the first real needs would begin Friday evening.

Feel free to share this with others in your area and anyone with questions can catch me on the air or can e-mail me!

73,

Rick - **KBØBDN**
RickJo@blackspruce.com

HI-Q

September 2006
Volume 72 Issue 7

Editors QSK...

Issues and volumes! Over the years we have seen Hi-Q showing several volumes and issues, sometimes repeated, sometimes missing, sometimes starting over!

I will try to muddle my way through this and start again with Volume 72. This accounts for the club starting in 1934 with newsletters of sorts starting about 1935. Volume 1 would be for 1935, then adding 71 years to bring us to 2006 we would now have volume 72. This will bring us to volume 75 in our 75th year in 2009! (coincidence?)
The issue numbers start at 1 for January and count up for each publication that year. Normally we will have 10 issues a year.

Hope this makes sense!

Bob, **VA3ROM** has submitted more material on APRS this month which ties in with past articles. He is trying to get as much information into your hands on this adaptable technology as he can. You can contact him at va3rom@tbaytel.net to help you with any questions or problems you may have.

Thanks to your submissions, there is more material submitted than can be put in this issue! If your material did not make this issue, it will be posted next month. Keep up the good work, its nice to have a bit of a surplus!

Thanks to all the contributors for this months Hi-Q! Your newsletter is only as good as we all make it!

That's it for now.

…_._
73, Leo VE3ATC
email: ve3atc@spruce.ca
Ps. Not a writer and have a story or pictures? Contact me and I will help get it out!

Ps If you are interested in helping with Hi-Q publishing, offers are out to assist me with layout, content, reporting, etc. I guess this would be like a partner position. However, we can make up a great title for the position that will give you warm feelings all over! Contact me for further info!

ON THE WEB

thanks to John, VE3EMI

Some interesting Video Links

Antenna Stirs Up Controversy
http://www.youtube.com/watch?v=aC_EeWSKJII

Tower Demolition
http://www.youtube.com/watch?v=LT5F9nvtyWo

Pals radio station museum
http://www.youtube.com/watch?v=WgQzGunM_ds

Ed note: you may want high speed connection for videos

Don't Forget to Check in !!

LARC ARES 2 Meter Net

Every Tuesday at 7:00 pm On YQT !!

ELECT NEW EXECUTIVE

2006 -2007 MEMBERSHIP IS DUE !!!
Fill out the attached Membership Form

Next regular meeting

Thursday

September 14, 2006

McIntyre Building, Confederation College

Room 191

A BIT OF WIT

Old Age

First you forget names, then you forget faces, then you forget to pull your zipper up, then you forget to pull your zipper down!

I saw a commercial on TV that said, "Kiss your hemorrhoids goodbye."
No way, not even if I could!

HI-Q

September 2006
Volume 72 Issue 7

THE LAKEHEAD AMATEUR RADIO CLUB JOURNAL

LARC—Suite 184
1100C Memorial Ave.
Thunder Bay, Ontario
Canada P7B 4A3

Club E-mail: VE3FW@rac.ca

LARC Website
http://www.larclub.net

Hi-Q Editor and Publisher
E-mail: ve3atc@spruce.ca
Leo VE3ATC 939-1020

Hi-Q is published monthly on the Sunday preceding the monthly meeting. Monthly meetings are held on the second Thursday of each month, except for July and August. Your submissions are welcome at any time. Submit early to ensure publication in next issue! Send to editor at ve3atc@spruce.ca

LARC is a member of RAC

LARC SENATE

Keith Fiske	VE3JQ
Pat Doherty	VE3PD
Dave Kimpton	VE3AVS
Laurie Bridgett	VE3BCD
Terry Stewardson	VA3LU
Ed Baumann	VE3SNW

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John Sacek	VA3JMS	767-3631
Vice-President		
Bob Hansen	VE3RVA	767-6924
Secretary		
Terry Stewardson	VA3LU	577-9439
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LARC PUBLIC SERVICES

ARES

District Emergency Coordinator
VE3FAL Fred Lesnick 577-0789

Emergency Coordinator
VA3OJ Randy Gottfred 474-0910

CANWARN

VA3JMS John 767-3631
VE3MXJ Brad 767-0628

PUBLIC SERVICE EVENTS

VE3MXJ Brad 767-0628
VA3JMS John 767-3631

RAC

Radio Amateurs of Canada

About LARC

Lakehead Amateur Radio Club members have all levels of interest and knowledge in the wide spectrum of amateur radio.

Monthly meetings and contact with other members allow us to share and discuss different ideas, and to learn from each other.

LARC membership meetings are held the second Thursday of each month, September through June at 7:30 PM local time at the McIntyre Building, Confederation College Room 191

Each meeting consists of a mix of technical and light-hearted topics, with a break for meeting friends and new friends.

Anyone with an interest in ham radio is invited to join us. Amateur radio classes are also administered by LARC to help you with your Amateur Radio License
contact any of the Executive members above for more information

2005/2006 MEMBERSHIP/RENEWAL APPLICATION

LAKEHEAD AMATEUR RADIO CLUB INC

1100C MEMORIAL AVE, SUITE 184, THUNDER BAY, ONT P7B4A3

CLASS OF MEMBERSHIP

FULL MEMBERSHIP $35.00-open only to licensed amateurs

NAME: _____ EMAIL: _____

ADDRESS: _____CITY _____

TELEPHONE: ( )_____ POSTAL CODE_____

MAY WE PUBLISH THE PHONE NUMBER yes / no
MAY WE DELIVER Hi-Q BY E-MAIL? yes / no

CALL(S) _____ _____

FAMILY MEMBERSHIP- immediate family residing at the same address holding licenses. $35.00 plus $10.00 for each additional amateur.

NAMES AND CALLS _____ _____

_____ _____

_____ _____

STUDENT MEMBERSHIP- $15.00-open to persons enrolled full time in an education facility, list School and program _____

ASSOCIATE MEMBERSHIP-$20.00-upon approval of the Board and open to:

1)Non holders of an amateur radio license.

2)Licensed amateurs living outside the immediate Thunder Bay area or are unable to attend regular meetings of the club.
If you feel you qualify for associate membership, please indicate why, on a separate sheet, to be used by the Board to consider your application.

Please mail or bring this form to the next meeting with your cash or cheque for membership fees.

Cheques should be made payable to Lakehead Amateur Radio Club.

Applications and cheques can also be dropped off at the above address.